

YALE MEDICAL LIBRARY

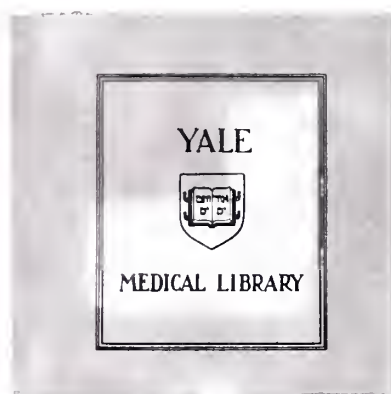


3 9002 08627 9271

THE IMPORTANCE AND DYNAMICS OF NURTURANCE
IN A FIRST YEAR MEDICAL STUDENT:
A Q STUDY

RICHARD E. KRAVITZ

1981





Digitized by the Internet Archive
in 2017 with funding from
Arcadia Fund

<https://archive.org/details/importancedynami00krav>

THE IMPORTANCE AND DYNAMICS OF NURTURANCE
IN A FIRST YEAR MEDICAL STUDENT:
A Q STUDY

A THESIS SUBMITTED TO
THE YALE UNIVERSITY SCHOOL OF MEDICINE
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
DOCTOR OF MEDICINE

BY
RICHARD E. KRAVITZ

1981
NEW HAVEN, CONNECTICUT

CONTENTS

LIST OF TABLES	111
ACKNOWLEDGMENTS	v
ABSTRACT	1
INTRODUCTION	2
THEORETICAL BACKGROUND	4
METHODOLOGY	14
Technique. Theory and the Structure of Q Samples. Statistical Analysis. Q Metho- dology and the Single Case.	
EXPERIMENTAL DESIGN	22
The Subject. Construction of the Q Sample. Conditions of Instruction. Hypotheses and Predictions. Data Collection.	
RESULTS I	32
Parental Models. The Importance of Nur- turance. The Dynamics of Nurturance. The Pressure of Achievement.	
RESULTS II: FACTOR ANALYSIS	37
DISCUSSION	45
Findings. Methodology.	
TABLES	50
REFERENCES	86

LIST OF TABLES

1. Need-disposition Cell Sums for All Q Sorts	51
2. Need-disposition Cell Sums for All Factors	52
3. The Analysis of Variance of the Ideal Self Q Sort	53
4. The Analysis of Variance of the Ideal Physician Q Sort	54
5. The Analysis of Variance of the Self Q Sort	55
6. The Analysis of Variance of the Professor Q Sort	56
7. The Analysis of Variance of the Mother Now Q Sort	57
8. The Analysis of Variance of the High School Mother Q Sort	58
9. The Analysis of Variance of the Father Now Q Sort	59
10. The Analysis of Variance of the High School Father Q Sort	60
11. The Analysis of Variance of the Future Self Q Sort	61
12. The Analysis of Variance of Factor F	62
13. The Analysis of Variance of Factor G	63
14. The Analysis of Variance of Factor H	64
15. Comparison of all Q Sorts Showing Significant Effects	65
16. Comparison of Factors Showing Significant Effects	66
17. Q Sort Correlation Matrix	67
18. Factor Loadings	68
19. Factor Weightings	69
20. Factor F(Mother Type)	70
21. Factor G (Nonmother Type)	72
22. Factor H (Ideal Type)	74

LIST OF TABLES--Continued

23. Statements Distinguishing Factor F from Factor G	76
24. Raw Q Sort Data	78
25. Raw Factor Data	80
26. Q Sample Statements	82

ACKNOWLEDGEMENTS

My debt to Marshall Edelson is enormous: for ideas, criticism, and even a bit of nurturance. I thank him.

THE IMPORTANCE AND DYNAMICS OF NURTURANCE IN A FIRST YEAR
MEDICAL STUDENT: A Q STUDY

Abstract

In considering the determinants of the formation of the appropriate professional attitude of the physician, I focused on Keniston's suggestion that medical students characteristically find it important to have caring, nurturing relationships. I discussed caring as the internalized mother role in the context of Parsons theory of the personality system and considered the issues which might threaten this identification.

I constructed a Q sample of self-referential statements to represent the personality theory, and, by asking a first year medical student to sort the Q sample to describe himself, his personal and professional ideals and his parents, I tested the following hypotheses: 1) The student would describe his parents according to differentiated familial role-types. 2) He would not need to reject his maternal identification. 3) He would need to defend against his own intense achievement feelings to protect that identification. 4) He would imagine that medical training would make him more achievement oriented. Results confirmed or were consistent with all of these hypotheses.

Finally, I factor analyzed the data to describe three nurturant types.

One of the central questions in medical education is: what are the determinants of a student's developing an appropriate professional attitude toward his patients?

Sociologists approach this question from the point of view of the institutional environment. We may think of this "institutional environment" in two ways. On one hand, the environment is an organization in which the student is the newest subordinate member (Levinson, 1967). The student needs to adapt to this organizational role, and the issues of achievement, success and failure are paramount. Boys in White by Becker et. al. (1961) best exemplifies this approach. The authors pay little attention to the psychological or psychodynamic aspects of the educational, socialization process.

In a series of publications, Renee Fox has propounded an approach which she calls "psychosociologic." (1957, 1959, Lief and Fox, 1963) For Fox, the relevant institutional environment is not only the educational organization, but, more importantly, the structural-functional characteristics of medical practice. The question for her, then, is not, "How does the student get by," but, "How do his experiences prepare him for the particular demands and requirements of the physician's role?" And she attends to the deeper psychological adaptations required of a student as he prepares to assume his professional role and identity.

Neither of these approaches examines the psychological issues with which the student arrives at medical school. Keniston (1966) provides a blueprint for what he thinks such

a study would look like. A person who chooses to go into medicine, he says, is likely to be concerned with three overriding issues: death, suffering and caring. Furthermore, the medical student will characteristically use three styles of defense to handle these issues and anxieties: a counterphobic tendency, an interest in changing the world rather than himself, and an inclination and ability to intellectualize in the face of difficult feelings. Keniston sees potential problems arising for the medical student because these adaptive techniques are so important for good performance in medical school that the student may use them too successfully. As a result, he may feel he is losing his more human, feeling qualities.

It is the issue of caring that I wish to focus on in this study, the psychological issues that underly Keniston's observation that "medical students are frequently individuals with a long-standing need for, enjoyment of, and capacity to tolerate being in a caring, providing, dispensing, nurturing relationship to other people." (p. 349) To begin to study this aspect of a medical student's personality, I will place the idea of caring in an appropriate theoretical context. Then I ask the question: does the importance of the caring role present psychological problems for the medical student?

THEORETICAL BACKGROUND

There is, in this respect, a duality in the role of the physician, namely, that whereas the orientation of affective neutrality is paramount, at certain stages, and under carefully controlled conditions, certain types of affectivity are not only permitted, but expected.... If it is not to block the therapeutic process, this empathy must be practiced under controlled conditions, e.g., within the framework of the professional role, and it is entered into only in order eventually to be overcome.

Talcott Parsons, "Some Theoretical Considerations Bearing on the Field of Medical Sociology," in Social Structure and Personality (1970)

What is the "need to be in a caring relationship to people" in the context of a personality? Parsons (1951) conceives of the personality as an organized system of action. Action is behavior conceptualized in terms of four elements: it is oriented to the attainment of an anticipated state of affairs; it takes place in concrete situations; it is normatively regulated; and it is motivated.

The basic structure of this personality system develops through a sequence of identifications with parental objects and the internalizations of the increasingly complex systems of social objects that the child experiences throughout the process of his early psychological and social differentiation (Parsons, 1955).

If we think of the infant, for instance, as part of an undifferentiated symbiotic relationship with the mother, this symbiosis is the first "system" that the child internalizes.

Later, as the mother-child relationship develops into a love-dependency dyad, the child internalizes this micro-social system. The child internalizes that system of object relations in the family he is able to experience at his developmental level; and this succession of internalizations constitutes the development of his basic personality structure.

By the time of the resolution of the oedipal phase, the child has internalized a family system that is differentiated along the two dimensions of sex and generation into four role-types. These four role-types are conveniently labeled by our common kinship terms. (See Figure 1.)

		Sex Role	
		Instrumental Priority	Expressive Priority
Generation Role	Superior	Instrumental superior Father (husband)	Expressive superior Mother (wife)
	Inferior	Instrumental inferior Son (brother)	Expressive inferior Daughter (sister)

Figure 1. Basic Role Structure of the Nuclear Family,

(Adapted from Parsons, 1955, p. 46.)

Sex Role

		Instrumental	Expressive
Generation Role	Superior	<p>Objects: Cathected: Self(m)^a Internalized: Father</p> <p>Need-disposition Conformity</p> <p>External Orientation Performance: Control of alter Sanction: Esteem</p> <p>Internal Orientation P-- Self-control S-- Self-esteem</p>	<p>Objects: Cathected: Self(f)^b Internalized: Mother</p> <p>Need-disposition Nurturance</p> <p>External Orientation P--Giving pleasure S--Response</p> <p>Internal Orientation P--Self-indulgence S--Self-gratification</p>
	Inferior	<p>Objects: Cathected: Father Internalized: Self(m)</p> <p>Need-disposition Adequacy</p> <p>External Orientation P--Instrumental Performance S--Approval</p> <p>Internal Orientation P--"Reality testing" S--Self-approval</p>	<p>Objects: Cathected: Mother Internalized: Self(f)</p> <p>Need-disposition Security</p> <p>External Orientation P--Giving love S--Acceptance</p> <p>Internal Orientation P--Harmonization S--Self-love</p>

^a masculine^b feminine

Figure 2. The Post-Oedipal Personality Structure

(Adapted from Parsons, 1955, p. 82.)

When considered as elements of the personality structure, the internalized role-types are called need-dispositions. Figure 2 diagrams the translation of familial role-types into need-dispositions. I will define the key concepts shown in the figure, because the interpretation of the experimental results requires a clear understanding of these terms.

A need-disposition is a motivational concept. It is a tendency to act in a specific way toward the social objects in one's world (performance type), with the expectation of certain kinds of responses (sanction type). A personality is not characterized by a single need-disposition; it is an organized system of need-dispositions, each with a different degree of importance or motivational weight.

Parsons defines expressivity and instrumentality as the essence of the functional distinction between the masculine and feminine roles. In the context of a social system, instrumental action is action directed toward procuring the external requirements that allow a system to continue to function. Instrumental action aims at attaining external goals. Expressive action is directed toward the integration of a system, toward reducing internal tension and the like. The simplest example of this expressive-instrumental distinction is the stereotyped picture of the nuclear family, in which the father is the breadwinner--he supports the family-- while the mother tends to the emotional needs of the family members -- she provides support within the family (Parsons, 1955).

We may also think of instrumentality and expressivity as different orientations an actor may have with respect to time. (Parsons, 1951). Instrumental action is oriented toward the future, toward the achievement of a goal. It involves discipline, renunciation of immediate potential gratifications. With any given goal, considerations for achieving it are primarily cognitive or rational.

In expressive action, on the other hand, "the primary orientation is not to the attainment of a goal anticipated for the future, but the organization of the 'flow' of gratifications." (Parsons, 1951, p. 49.) (In his lexicon, when Parsons discusses orientation toward a social object, that is, another person, he speaks of the expressive-instrumental distinction in terms of the pattern variables affectivity and neutrality.)

The generation role dimension is a power axis. As I describe the individual need-dispositions, it may seem that the power dimension is missing. It is useful to keep in mind that the inferior role is not only characterized by action (performance) directed toward superiors, but toward peers as well. Parsons would maintain there is an implied superior presence from whom the desired response (sanction) is sought. In simple terms, for example, no matter how accomplished one is, an achievement motivation implies seeking a superior's approval.

Throughout this paper I will use the terms "nurturance," "conformity," "adequacy," and "security" to refer to the following

theoretically defined need-dispositions:

The conformity need-disposition is the internalized father (superior-instrumental) role. In relation to other people, it is an attitude of leadership and authority. It is the source of the disciplinary aspect of one's performance as a socializing agent. It is the source of the demand to relinquish dependency and aggression, to conform to normative standards with autonomous performance.

The nurturance need-disposition is the internalized mother (superior-expressive) role. It entails permissiveness, support, and the expression of love. The giving of gratification is not contingent on the other's conformity with any normative standards.

The adequacy need-disposition is the internalized son (inferior-instrumental) role. It represents achievement motivation, the need to perform autonomously, to do things which are expected and approved.

Finally, the security need-disposition is the internalized daughter (inferior-expressive) role. It is the source of activity which aims at being accepted and being loved for being nice and in harmony with others.

This scheme is the theoretical context in which we will look at the need to have a caring, nurturing relationship. It emphasizes the importance of early childhood parental and sex role identifications. It allows us to look at the issue of nurturance in a way that is immediately pertinent to Parsons' idea of the dual role of the physician as well as

to Renee Fox's notion of detached concern. Merton expresses a similar idea as a potential value conflict in the role of the physician: "The physician must be emotionally detached in his attitudes toward patients, keeping 'his emotions on ice' and not becoming 'overly identified' with his patients. But: he must avoid becoming callous through excessive detachment, and should have compassionate concern for the patient." (1957)

The scheme is also convenient ground against which to outline the theoretical hypotheses which inform this study. The familial role-types which Parsons has defined are Weberian ideal types: no particular family system need precisely correspond to the theoretical system. A particular father, for instance, may play the superior-expressive role in the family. We have ways, in our ordinary language, to express these counter-stereotyped instances: "househusband," or "She wears the pants in the family." The point is, we define these other patterns in terms of the ideal type. We can predict that in a normally functioning family, there will be a differentiation between parental roles. In the modal case, the father will play the superior-instrumental role, the mother, the superior-expressive role.

In an essay originally published in 1947, Parsons (1954) analyzes the social structuring of aggression in western society. Aggression, he says, arises in situations of insecurity and inadequacy, anxiety over loss of love and anxiety over inability to fulfill expectations of achievement, respectively. Western society is characterized by an overall achievement

orientation, and by a kinship system organized around a tightly knit nuclear family. This situation, he feels, not only generates considerable anxiety, it also makes it very difficult to integrate the resultant aggressive impulses. For boys, the specific problem of giving up the primary identification with mother and assuming a masculine role becomes another source of anxiety. Can the boy be masculine enough? Does he have to entirely reject the identification with mother?

It is my hypothesis that a young man choosing to go into medicine does not need to reject his maternal identification. He will think of the physician's role as most characteristically a nurturant role; he will want to become a caring person.

Nevertheless, he experiences pressure to compete and perform well and to relinquish some part of the feminine identification. The occupational system, Parsons continues, with its emphasis on functional achievement, the segregation of the technical role from other aspects of life, the necessity of disciplining feelings so that they won't interfere with complex and sophisticated tasks, the element of competition, the high level of responsibility required, and involvement in complex social relationships not governed by traditional values increases the level of anxiety, hence aggression, but also requires repression, isolation, or displacement of that aggression.

As a student begins medical school he stands at the threshold of this occupational world. Furthermore, he is at the point of a more fundamental separation from his family of origin. The senses of inadequacy and insecurity are accentuated. The pressures to achieve, as well as to control his aggression, are amplified. Under these conditions, the identification with the mother role, the nurturance need-disposition, may not be at all comfortable. But it is precisely the integration of the instrumental and expressive aspects of his orientation that is a prerequisite of the physician's caring attitude.

The student may experience this discomfort in two ways. If the urgency of his aggressive feelings, on the basis of a sense of inadequacy, is too great, he may need to reject this aspect of himself, dissociate himself from his intense achievement orientation.

On the other hand, if he is frightened by the intensity of his feminine identification, he may need to reject his expressive orientation, at least among his peers. Both psychological strategies preserve the high psychological status of nurturance.

In the dim light of these theoretical adumbrations, let me clarify my hypotheses:

1. A family is a social system of differentiated roles. Any person will discriminate between his parents on the basis of their superior role-types.

2. A male medical student does not need to reject his mother role-type identification, which is a nurturant ideal.

3. As he begins medical school, intense feelings of inadequacy or insecurity may provoke aggressive impulses which threaten the student's nurturant ideal. Therefore, he may need to defend against his achievement orientation or his inferior-expressive role identification in order to preserve his nurturant ideal.

4. The student is well aware of the intense performance demands of his medical training and thus imagines he will become, if he is not able to acknowledge it already, an achievement oriented person.

In order to test these theoretical hypotheses I first need a way to operationalize the familial role-types and their internalized equivalents, the four need-dispositions. I then need a way to have a medical student represent his image of his parents, to test whether he does identify with a nurturant ideal, to find out whether he needs to defend against certain role orientations, and to determine what kind of person he thinks he will become. To conduct this study I have chosen Q methodology.

METHODOLOGY

William Stephenson first described Q methodology in the 1930s and 1940s and gave it a systematic explication in his book The Study of Behavior (1953). Because the assumptions and techniques of analysis of Q data are controversial, I will give a brief summary of the method. In this description I rely heavily on two discussions by Kerlinger (1972; 1973), and a recent book-length exposition by Brown (1980).

Technique

Q technique is a modified rank-ordering method. The subject ranks a set of stimuli, called the Q sample, according to a particular instruction such as, "Arrange these items in the order of what pleases you most to what pleases you least." Sorting a Q sample "enables a subject to provide a model of his point of view." (Brown, 1980, p. 55.) The subject ranks the items by sorting them into a specified number of piles, each to contain a predetermined number of items. If the subject has 17 items to arrange according to how pleasing they are, he might, for example, be asked to separate them into seven different piles with the following frequency distribution:

	Least Pleasing		Neutral			Most Pleasing	
score:	-3	-2	-1	0	+1	+2	+3
frequency:	1	2	3	5	3	2	1

In this forced choice sorting technique, the subject, in effect, assigns a score--according to the criterion of the condition of instruction--to each of the items in the Q sample. Unlike in other ranking procedures the middle pile is neutral. The extreme piles, both negative and positive ends of the distribution, contain the items of significance.

Theory and the Structure of Q Samples

One of his great innovations was Stephenson's demonstration that he could represent a theory in a Q sample and test propositions derived from that theory by asking subjects to perform Q sorts. Probably the most sophisticated use of Q methodology for theory testing is in a study of the self system by Edelson and Jones (1954).

In a study of aesthetic sensibility, Stephenson (1953) constructed a Q sample consisting of paper cut-out designs. He classified these according to two formal principles: shape dominance and shape concentration, each with two possible variations. The structure of the Q sample may be represented as a factorial design:

Main Effects	Levels	
A. Shape dominance	a ₁ . Regular	a ₂ . Irregular
B. Shape concentration	b ₁ . Overlapping	b ₂ . Not overlapping

Thus, there are four possible kinds of designs: a_1b_1 , a_1b_2 , a_2b_1 , and a_2b_2 . The Q sample consisted of 30 designs in each of these categories for a total of 120. One role of theory in Q methodology, then, is in choosing or constructing the Q sample and classifying the items: the theory is a classificatory system. The experimenter, of course, must select items which adequately represent the theoretical concepts.

Each Q sample is conceived to represent a larger population of statements or items. Edelson and Jones (1954) collected an enormous number of statements produced by their subject (in the form of journals, projective tests, etc.) so that their Q sample was literally a sample from the larger population of statements. Stephenson even suggested a random sampling procedure to obtain a Q sample from a larger population of items.

Stephenson seemed to feel, however, that with the introduction of factorial design as the principle of Q sample construction and the use of variance analysis, sampling issues derived from large group theory were not as pertinent. Instead, he discussed the principles of homogeneity of type and heterogeneity of item. Items which make up a Q sample should be homogeneous with respect to the relevant class to which they belong. For example, all the paper cut-outs were rearrangements of the same five shapes. Within this homogeneous class, however, there should be as heterogeneous a set of items as possible so that the subject has to make an independent judgment about each one.

Statistical Analysis

The Analysis of Variance

I have already pointed out the similarity of a structured Q sample and a small sample study with a factorial design. In Q technique, the statements are equivalent to the subjects in the usual kind of factorial experiment. In the process of sorting the Q sample, the subject assigns a score to each item according to some psychological criterion, "characteristicness," for example. The analysis of variance is a test of whether the theoretical effects, by which the sample is structured, account for the variance in the scores the items receive. Are the theoretical concepts the determinants of the structure of the representation that the subject produces by performing the Q sort?

To be more precise, variance analysis tests the null hypothesis that the mean scores the groups or cells of items receive will not differ significantly from the scores they would receive in a random sorting. The research hypothesis is that the mean scores will significantly differ. We interpret this significant difference to mean that the theoretical categorizations represent psychologically meaningful determinants of the sorting process. The independent variable is indicated by the classification of the item. The dependent variable--again, characteristicness for example--is measured by the score the subject assigns the item as he sorts the Q sample.

Critics of Q methodology cite the lack of independence in measurement and the forced distribution as reasons why the analysis of variance is an invalid statistical technique for analyzing Q data. Brown (1980), after Stephenson (1953), argues that the issue of comparing statements or other Q items with each other is a very different issue from statistical independence. Recall the criterion I noted above, that each Q item should in no way entail a judgment or ranking of any other Q item. Therefore, no two items should be logical opposites; nor should items be similar on the basis of extraneous variables like the color of cards on which they are typed, etc. Stephenson suggests that a test for homogeneity of variance is an adequate check to see if the independence assumption is satisfied.

Brown also argues that the forced distribution and the consequent limitation of degrees of freedom are insignificant violations of the assumptions of the statistical model given the millions of possible permutations when the Q sample has an $N > 60$ with 11 different possible ranks.

Correlation and Factor Analysis

Q sort data may be correlated and then factor analyzed for a variety of investigative purposes. Rogers and Dymond (1954) used the correlations between Q sorts representing a patient's idea of himself and of his ideal self as an indicator of self-esteem. They then followed change in this score to measure psychotherapeutic outcome.

An illustrative use of factor analysis would be a study of political attitudes. An investigator may construct a Q sample of relevant opinion statements, administer it to an appropriate group of respondents, and then factor analyze the Q sorts to discover and describe political types.

Brown recommends calculating a correlation matrix of product moment coefficients. While this statistic rests on the assumption of equal intervals, he demonstrates that the results are essentially equivalent to those obtained using Spearman's r_s , a statistic which does not require equal interval measurements.

Critics complain that the centroid method of factor analysis recommended by Stephenson is indeterminate and, therefore, arbitrary; that there are literally an infinite number of possible solutions. Stephenson feels, however, that the indeterminacy of the centroid technique and the possibility of theoretically informed rotations are a great advantage and especially suited to structured Q sample data.

Such rotations open up two possibilities. One is to be able to check results of the analysis of variance of individual Q sorts with the emergent factors, which themselves may be subjected to variance analysis. The other is to be able to rotate factors so as to produce unexpected relationships from which the experimenter may "abduct" new explanatory principles (Brown, 1980).

We may think of a factor in Q methodology as the scoring distribution of a hypothetical Q sort called a factor array.

The significant factor loadings of the individual Q sorts are their correlation coefficients with the factor array. In this study, I've used the centroid method outlined by Brown (1980).

Item Comparison

In a correlational Q study, one is often interested in the specificity of a Q sort or factor array. To compare any Q sort with any other, any factor with any other, or a Q sort with a factor, one wants to know what items distinguish the two. In order to determine which items do significantly differentiate two Q sorts a and b, I've used the following formula to estimate the standard error of the difference:

$SED_{a-b} = \sqrt{SE_a^2 + SE_b^2 - 2r_{ab}SE_aSE_b}$, where r_{ab} equals the product moment coefficient of the two Q sorts, and SE is the standard error estimate for the single Q sort (or factor array). Because of the forced distribution of any Q sort and the fact that the significant items are in the extreme piles, I will use a strict standard for statistical significance, $\alpha = .001$, and comment only on statements that are significantly positive ($\geq +3$) or negative (≤ -3) in either comparison Q sort.

Q Methodology and the Single Case

Stephenson recognized the applicability of Q methodology to an intensive analysis of a single case. The methodology gives us an objective way to study patterns of intra-

individual variance; a way to make statistical arguments about the data of "subjectivity" without completely sacrificing the richness of clinical or biographical methods. And certainly, if we are interested in measuring a person's point of view, his ideas or opinions, Q technique offers significant advantages over the usual trait or attitude scale measurements. It allows us, as Kerlinger says, to measure the structure of an attitude rather than its quantity.(1973).

EXPERIMENTAL DESIGN

The overall investigative strategy is to have a first year medical student provide representations of his image of himself, his personal and professional ideals, and his parents by sorting a Q sample to describe each of these objects. The Q sample consists of statements which represent Parsons' four familial-role motivational complexes. In the first part of the study I will use the analysis of variance to test predictions about the individual Q sorts. In part II I will use factor analysis to redescribe the set of representations in terms of types.

The Subject

The subject is a male, first year medical student. The only selection criterion was that he not be extremely "atypical," for example, not be pursuing his second advanced degree, nor be in a joint degree program. The student was offered no incentive to participate. He was told that the study concerned a medical student's ideas about himself and becoming a doctor, and he was assured that his anonymity would be protected. The research project was approved by the Yale Human Investigation Committee.

I note the following relevant bits of biographical information:

1. The student's decision to go to medical school caused a bitter disruption in his relationship with the college professor under whom he had been doing research.

2. The student does not know what branch of medicine he wants to go into.

3. Neither parent is a physician.

Construction of the Q Sample

To operationalize the idea of nurturance as an aspect of personality, I constructed a Q sample to represent Parsons' theory of values and need-dispositions in the personality system. As shown in Figure 2, these need-dispositions are the four combinatorial possibilities generated by the two fundamental social role dimensions of the family: sex role, which is either expressive or instrumental, and generation role, which is either superior or inferior. The structure of the Q sample may be represented as follows:

Main Effects	Levels	
A. Generation	a ₁ . Superior	a ₂ . Inferior
B. Sex	b ₁ . Instrumental	b ₂ . Expressive
C. Intensity	c ₁ . Mild	c ₂ . Intense

I included a third dimension, the intensity of the statement, with the following rationale: When a subject performs a Q sort, his beliefs and feelings will determine how he orders the items. We get a measure of psychological salience in relation to the criterion we're studying, in this case, how characteristic a statement is of the image the student has of a person, an ideal, or the self. We also

assume that there are unconscious processes operating, attitudes toward the self and object which will partially determine what is consciously salient. To help in our interpretation of these unconscious attitudes, to interpret the interplay between conscious representation and feeling, I added the intensity of statement dimension to my theoretical categorization.

Let us suppose, for example, that the subject describes himself as very achievement oriented, using both mild and intense statements. If another need-disposition is also characteristic, but only as expressed by mild statements, we would note that the subject not only thinks of achievement as a salient characteristic, he needs to give it special emphasis. We would have some basis to wonder whether this self-representation was compensatory. Does he feel he really isn't achievement oriented enough? Is the Q sort a form of self-criticism? Such an interaction effect would point to areas of special importance.

There are eight statements in each cell for a total N of 64. The entire sample may be found in TABLE 26.

I have used a rating scale of 11 with a quasi-normal frequency distribution.

	Most Uncharacteristic					Neutral		Most Characteristic				
Score	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	
Raw Score	1	2	3	4	5	6	7	8	9	10	11	
Frequency	2	3	5	7	10	10	10	7	5	3	2	

Conditions of Instruction

To obtain representations of his self- and ideal self-images, I asked the student to sort the Q sample under the following conditions of instruction:

1. "Describe yourself as you usually are now."

This self Q sort will represent the subject's self-image.

2. "If you were the kind of person that you would most want to be, describe yourself." This ideal self Q sort represents the subject's personal ideal, the kind of person he wants to be.

3. "Describe your teacher as he was when you were working for him." This professor Q sort represents the kind of person the student does not want to be.

To obtain a representation of his idea of the physician's role, I asked the student to sort the Q sample under the following condition of instruction:

4. "Describe what you think the ideal physician should be like." This is the ideal physician Q sort.

To obtain a representation of his idea of the kind of person he thought he would become after he finished his professional training, I asked the student to sort the Q sample under the following condition of instruction:

5. "Imagine yourself as the kind of physician you will actually be ten years from now and describe yourself as you will be in general." This is the future self Q sort.

To obtain representations of his parents, as he sees them now and as he saw them as an adolescent, I asked the student to sort the Q sample under the following conditions of instruction:

6. "Describe your father as he usually is now."

This is the father now Q sort.

7. "Describe your father as you perceived him when you were living at home the year before you left for college."

This is the high school father Q sort.

8. "Describe your mother as she usually is now."

This is the mother now Q sort.

9. "Describe your mother as you perceived her when you were living at home the year before you left for college."

This is the high school mother Q sort.

Hypotheses and Predictions

I am now in a position to restate the theoretical hypotheses with their operational translations and my experimental predictions.

Theoretical Hypothesis 1: Parental Models

The subject will differentiate his parents on the basis of their superior role-types. If his family experience has been of the modal type, he will describe his mother as having a more superior-expressive orientation, his father, a superior-instrumental orientation.

Predictions. In the high school mother Q sort, the mean score of superior-expressive statements will be higher than the mean scores of superior-instrumental and inferior-expressive statements.

In the high school father Q sort, the mean score of superior-instrumental statements will be higher than the mean scores of superior-expressive and inferior-instrumental statements.

Justification. I want to know if the superior-expressive function in the student's family was the mother's or the father's role. I asked the student to provide remembered adolescent perceptions of his parents, as well as current perceptions, for the following reasons: A person will more likely differentiate his parents on the basis of superior role-orientation from a position of dependency on them than he will from a position of relatively more equal status. Because dependency issues are often of prime concern in adolescence, the high school parent Q sorts should be more sharply distinguished in terms of the personality variables in which we're interested than are the parent now Q sorts; that is, will more likely have significant sex and generation role effects.

Theoretical Hypothesis 2: The Importance of Nurturance

A male who chooses to go into medicine does not need to reject his maternal identification. Therefore, he will highly value a superior-expressive orientation, and he will

consider such an orientation the most important aspect of the physician's role.

Predictions. In the ideal self Q sort and in the ideal physician Q sort, the mean scores of superior-expressive statements will be higher than the mean scores of inferior-expressive and superior-instrumental statements. In the ideal physician Q sort, the mean score of superior-expressive statements will also be higher than the mean score of inferior-instrumental statements.

Theoretical Hypothesis 3: The Dynamics of Nurturance

When he begins medical school, intense feelings of inadequacy or insecurity may threaten the male student's nurturant ideal. To preserve the psychological status of his ideal, he will tend to reject his intense-instrumental need-disposition or his intense-inferior-expressive need-disposition.

Predictions. In the professor Q sort, the mean score of intense-instrumental statements will be higher than the mean score of mild-instrumental statements, and/or the mean score of superior-instrumental statements will be higher than the mean score of superior-expressive statements.

Statements which significantly differentiate the self and ideal self Q sorts and which are significantly characteristic of both the self and the professor Q sorts will be intense-instrumental.

Justification. The professor Q sort represents a rejected role model, the person the student does not want to become. Because this rejected role model is a teacher, it should be rejected instrumental qualities that the student projects onto him.

Since I'm claiming that the student is projecting unwanted aspects of himself, I will test that claim by identifying those statements characteristic of both self and professor. If these statements are among the qualities the student considers "nonideal" about himself--determined by a comparison of self and ideal self Q sorts--I have some justification for the claim and thus support for the hypothesis.

Theoretical Hypothesis 4: The Pressure of Achievement

The first year student is well aware of performance pressures as he begins medical school. Even if he doesn't consider himself at present achievement oriented, he imagines that after his medical training he will be so.

Predictions. In the future self Q sort, the mean score of inferior-instrumental statements will be higher than the mean score of inferior-expressive statements.

Data Collection

The student sorted the Q sample a total of ten times. Each statements was typed on a separate card, numbered randomly, and presented to the student in different random orders on each occasion. He was asked to describe the specified object by arranging the statements, from what was most characteristic to what was most uncharacteristic, into 11 piles, the number of cards in each pile specified by the frequency distribution. He was instructed that the middle pile was neutral or should consist of statements not particularly relevant to the object being described. He was also told that he could move any card to any pile and to not worry about being logically consistent. A Q sample of statements with first person pronouns or masculine or feminine third person pronouns was used depending upon the condition of instruction.

Except for the first two sortings which were self-descriptions and provided an estimate of test-retest reliability, the other conditions of instruction were presented in the following randomized order:

1. Ideal physician
2. Ideal self
3. High school mother
4. Professor
5. Father now
6. Future self

7. Mother now

8. High school father

The subject performed each Q sort a day or two days apart, so that the entire data collection took two weeks. I used the second self Q sort in the data analysis.

RESULTS I

Parental Models

The analysis of variance of the four parental Q sorts shows that the results partially confirm and are entirely consistent with my predictions. In the high school mother Q sort, the mean score of superior-expressive statements is significantly higher than the mean score of inferior-expressive statements ($p < .001$). The superior-expressive mean is higher than the superior-instrumental mean, but this effect does not reach statistical significance ($p > .01$; see TABLES 1 and 8 for cell sums and ANOVA).

In the high school father Q sort, there is a significant main effect of generation role: the mean score of superior statements is higher than the mean of inferior statements ($p < .01$). Among superior statements, the instrumental mean is higher than the expressive mean; and among instrumental statements, the superior mean is higher than the inferior mean; but these predicted interaction effects do not reach statistical significance. (See TABLES 1 and 10 for cell sums and ANOVA.)

As expected, the parent now Q sorts are not as well differentiated as the high school parent Q sorts. (See TABLES 1, 7 and 9 for cell sums and ANOVA.)

There is another significant interaction effect in the high school mother Q sort: the mean score of inferior-

instrumental statements is higher than the mean score of inferior-expressive statements ($p < .01$).

Interpretation

Although all the trends in the data are in the direction of my predictions, we cannot on statistical grounds infer that the student differentiates his parents on the basis of their superior role orientations in the way I said they would.

The other interesting result is that the student also distinguishes his parents in terms of their inferior roles. The mother he regards as significantly more instrumental than expressive. He does not significantly distinguish the father's inferior sex role orientations.

The Importance of Nurturance

The analysis of variance shows that the results confirm my hypothesis.

In the ideal self Q sort, the mean score of superior-expressive statements is higher than the mean of inferior-expressive statements ($p < .001$), and higher than the mean of superior-instrumental statements ($p < .001$; see TABLES 1 and 3 for cell sums and ANOVA).

In the ideal physician Q sort, the mean score of superior-expressive statements is higher than the inferior-expressive mean ($p < .001$), the superior-instrumental mean ($p < .001$) and the inferior-instrumental mean [$q(4,60) = 4.8$, $p < .01$, Tukey's HSD; see TABLES 1 and 4 for cell sums and ANOVA].

The Dynamics of Nurturance

The results conform to my predictions. The analysis of variance of the professor Q sort shows that the mean score of instrumental statements is higher than the mean score of expressive statements ($p < .001$). The mean score of intense-instrumental statements is higher than the mild-instrumental mean ($p < .01$). And the mean score of superior-instrumental statements is higher than the superior-expressive mean [$q(4,60) = 9.78$, $p < .01$, Tukey's HSD; see TABLES 1 and 6 for cell sums and ANOVA]. The effects are so pure that every single instrumental statement is either characteristic of the professor or neutral.

Three statements are significantly characteristic of both the self and the professor Q sorts; all three are instrumental; and all three are significantly more characteristic of the self than of the ideal self ($p < .001$). I will list the statements with their respective scores on the self (S), professor (P) and ideal self (IS) Q sorts.

<u>S</u>	<u>P</u>	<u>IS</u>	
+4	+4	0	1. I often show others how to solve a problem. (inferior, instrumental, mild)
+4	+3	-2	36. I can be competitive. (inferior, instrumental, mild)
+3	+4	-2	15. I set high standards for people to live up to. (superior, instrumental, intense)

I am interpreting this kind of contrast between the self and ideal self Q sorts to indicate an implied self-

criticism of the form: "I wish it were less characteristic of me that I...."

There are two sets of findings which seem anomalous.

1) I predicted that the student would consider intense-instrumental statements nonideal, but two of the three statements we have identified are mild. 2) There are two other instrumental statements which distinguish the self and ideal self Q sorts which imply a self-criticism of the following form: "I wish it were less uncharacteristic of me that I...."

S IS

-4 -1 13. I step in when things aren't being done correctly.

(superior, instrumental, intense)

-3 +1 41. I pursue my goals with great determination.

(inferior, instrumental, intense)

Interpretation

Although the results confirm my hypothesis that the aspects of the self the student needs to reject are instrumental qualities, the finding indicated by statements 13 and 41 suggests that we have to modify our conception. The student wants to defend against his instrumental orientation, but he doesn't want to completely inhibit this need-disposition. These results suggest ambivalence over his instrumental orientation, a psychological conflict. He is saying simultaneously: "I am too oriented in an instrumental direction," and "I am too much not oriented in an instrumental direction."

The Pressure of Achievement

The results confirm my hypothesis. Analysis of variance of the future self Q sort shows that the mean score of inferior-instrumental statements is higher than the mean score of inferior-expressive statements ($p < .001$).

The other important result is that the mean score of superior-expressive statements is significantly higher than the inferior-expressive mean ($p < .001$). It is also higher than the superior-instrumental mean, although this effect does not reach statistical significance (see TABLES 1 and 11 for cell sums and ANOVA).

Interpretation

The student feels that once he assumes his professional identity, an inferior-instrumental orientation will be more characteristic of him than an inferior-expressive orientation. (This distinction is not true of his current self-image; see TABLE 1 for self Q sort cell sums.) Therefore, we can conclude that he feels he will be significantly achievement oriented in the future.

He also feels that the superior-expressive orientation will be most characteristic. He does not feel he has to sacrifice his nurturance need-disposition.

RESULTS II: FACTOR ANALYSIS

In studying the parental models, I wanted to find out whether this first year student identified the nurturant role with , or exclusively with his own mother. Were his personal and professional ideals maternal ideals, maternal, that is, in the context of his own experience? Factor analysis offers another approach to that question. If I were able to define a mother and a father factor, I could then ascertain what aspects of himself and of his ideals the student identified with one or the other parent.

Because of the high correlation among mother and father Q sorts and, indeed, among all the Q sorts except that of the former teacher (see TABLE 17), I was not able to find a solution with separate mother and father factors. In a solution of three highly correlated factors, however, I was able to discover what I'll call a mother factor (factor F) and a nonmother factor (factor G): the two mother Q sorts have high loadings on factor F and are not significantly loaded on factor G. Each of the other Q sorts, save the professor, is loaded approximately equally on both factors (see TABLE 18).

The third factor, an "ideal" factor (factor H), is defined on the positive pole by the ideal self and ideal physician Q sorts and on the negative pole by the professor Q sort. (See TABLE 19 for factor weightings.)

The analysis of variance of factor F, the mother factor, shows that the mean score of superior-expressive statements is higher than the mean scores of inferior-expressive ($p < .001$) and of superior-instrumental statements ($p < .01$). The mean score of inferior-instrumental statements is higher than the mean score of inferior-expressive statements ($p < .01$; see TABLES 2 and 12 for cell sums and ANOVA).

Variance analysis of factor G, the non-mother factor, shows a main generation effect: the mean score of superior statements is higher than the mean score of inferior statements ($p < .01$; see TABLES 2 and 13 for cell sums and ANOVA).

A comparison of the cell sums shows that nurturance statements are most characteristic of both factors (see TABLE 2). To get at the difference, I will examine the statements which distinguish the two factors.

A comparison of the factor arrays shows that the two factors are distinguished primarily by their positive poles (see TABLES 20 and 21 for the factor arrays and TABLE 23 for the complete comparison). Statements significantly characteristic of factor F (≥ 3) and significantly more characteristic of F than G ($p < .001$) are the following:

(Mo) (Non)

<u>F</u>	<u>G</u>	
+5	0	41. I pursue my goals with great determination.

(inferior, instrumental, intense)

+4	0	59. I go out of my way to be nice.
----	---	------------------------------------

(inferior, expressive, intense)

Mo	Non	
<u>F</u>	<u>G</u>	
+3.3	0	46. When I devote myself to the task at hand I can be tough-minded. (inferior, instrumental, intense)
+3.3	+1	51. I spend a lot of time with the people I like. (inferior, expressive mild)
+3.3	+1.3	33. I work hard to be successful. (inferior, instrumental, mild)

Statements significantly characteristic of factor G (≥ 3) and significantly more characteristic of G than F ($p < .001$) are the following:

Non	Mo	
<u>G</u>	<u>F</u>	
+5	-1	38. I can put aside feelings in the effort to solve an important problem (inferior, instrumental, mild)
+5	+2	21. I listen to people's intimate concerns. (superior, expressive mild)
+4	+1	55. I share my experiences with people I'm close to. (inferior, expressive, mild)
+3	0	50. I'm friendly, pleasant and agreeable. (inferior, expressive, mild)
+3	+1	6. I can be honest when I think people need criticism or correction. (superior, instrumental, mild)

The analysis of variance of factor H, the ideal factor, shows main sex and generation effects. The mean score of superior statements is higher than the inferior mean ($p < .05$); the mean score of expressive statements is higher than the instrumental mean ($p < .001$). The mean score of superior-expressive statements is significantly higher than the mean of the inferior-expressive statements [$q(4,60) = 4.03, p < .05$], of the superior-instrumental statements ($q = 6.09, p < .01$), and of the inferior-instrumental statements ($q = 7.13, p < .01$; see TABLES 2 and 14 for cell sums and ANOVA).

The correlations among the three factors are all significantly positive ($p < .001$): $r_{FG} = .70$; $r_{FH} = .51$; and $r_{GH} = .82$.

Interpretation

We may think of each factor array as the Q description of a "type." The three types that we have extracted from the set of Qsorts provided by our subject represent three types of caregivers. The analysis of variance shows that we are able to distinguish between these three types on the basis of our theoretical effects. In other words, in each type, although nurturance is the most characteristic need-disposition, it has a different relationship to the other need-dispositions. The three factors, then, are three different nurturant personality types.

In factor F, the mother type, the superior-expressive role is sharply distinguished from the inferior-expressive

and the superior-instrumental role. These findings meet the criteria for the maternal role which I proposed in the study of the parent Q sorts.

Inferior-expressive qualities are very uncharacteristic of the mother type; more characteristic are the inferior-instrumental tendencies. In essence, the mother type is the model of a nurturant achiever. What the student identifies as specifically maternal in his set of representations is the achieving role.

The nonmother type, factor G, is a caregiver in the context of an overall parental orientation. No significant sex role distinction is made among either inferior or superior generational role characteristics, although, as is clear from the data, the trend is for superior-expressive statements to be more characteristic than superior-instrumental statements.

Examination of the factor arrays (see TABLES 20 and 21) shows that nurturant statements are characteristic of both types. They are not distinguished by this need-disposition. Let's look at the statements I have listed which do distinguish them to get a flavor of the mother and nonmother types.

As we glance over the distinguishing statements, our theoretical categories help us a little. Notice, for example, that almost all the statements that distinguish the two types are inferior-role statements. In other words, they are similar in their superior role qualities.

Consider, also, the intensity effect. Three out of five statements more characteristic of the mother type are

intense. All five statements more characteristic of the nonmother type are mild.

We will examine two pairs of statements to discover what this contrast might mean. Consider statement 46, "When I devote myself to the task at hand, I can be tough-minded," and statement 38, "I can put aside feelings in the effort to solve an important problem." Both statements denote roughly the same meaning: they express the claim to be able to apply reason to a problem. But statement 46 makes that claim with great feeling--expressed by "devote" and "tough"--and implies that the application of mind to a problem is itself an emotional commitment. This statement is characteristic of the mother type and not relevant to the nonmother type.

Statement 38, on the other hand, connotes a renunciation of feeling, a deferral of gratification. Emotion is an impediment to mind. This statement is characteristic of the nonmother type, not relevant to the mother type.

Statement 59, "I go out of my way to be nice," and statement 50, "I'm friendly, pleasant and agreeable," show a similar contrast between the two types. "I go out of my way to be nice," expresses a sociability of active exertion. The statement makes niceness a task, however pleasurable a task it may be. This statement is very characteristic of the mother type, not relevant to the nonmother type.

On the other hand, being friendly, pleasant and agreeable is being nice without going out of one's way. This non-aggressiveness is characteristic of the nonmother type.

Finally, consider statements 51, 21 and 55. They shed light on the quality of personal relationships these two types have. Statement 51, characteristic of the mother type, expresses an active sociability. "I spend a lot of time with the people I like," is similar in this regard to "I go out of my way to be nice."

Statements 21 and 55, characteristic of the nonmother type, express a concern with intimacy, both giving and receiving. The nonmother type is a caring figure who is able to renounce his own strong feelings and impulses and be open and intimate. This renunciation, which, we may surmise, permits the intimacy, has its obverse: very uncharacteristic of the nonmother type is the statement, "I become very attached to people." The nonmother type, we could say, is a model of detached concern.

The mother type, the nurturant achiever, is more aggressive, more active in her work and in her relationships, less able to put her feelings aside, less able to be intimate, more saturated with good intention.

Factor H is the ideal caring type abstracted from, that is, not correlated with either parent or the self. It is more highly correlated with the nonmother type than the mother type ($p < .001$). Nurturance is the most salient characteristic in the context of expressivity being much more characteristic than instrumentality and the superior role more characteristic than the inferior role. Nurturance is so important a value of the ideal type that even intense-superior-expressive statements have a higher mean score than

any other mild need-disposition, although this effect is not statistically significant (see TABLE 2). Intense-instrumental statements are the most uncharacteristic. Adequacy, the internalized achieving role, is the most uncharacteristic need-disposition. Inferior-expressive statements are correspondingly more characteristic. Factor H represents the ideal of an all-loving, all-giving type, unencumbered by the needs to achieve or take responsibility: the sweet wish of a first year medical student.

DISCUSSION

Findings

Using Q methodology in an intensive analysis of a single case, I have tested hypotheses about male first year medical students derived from the work of Keniston and Parsons.

I was not able to confirm the first hypothesis that a person will differentiate his parents according to superior role-type. The fact that the data were consistent with the hypothesis, however, and that, as predicted, the remembered adolescent perceptions more closely conformed to the hypothesis, are suggestive enough findings to lead us in the direction of devising better ways of testing the theory rather than discarding it.

Methodological problems may have interfered. The subject complained that it was difficult to remember how he felt when he was in high school, and said that he was mixing in current with remembered perceptions. Furthermore, I could have specified in the instruction that I wanted a description of the role the parent played in the family.

I was able to confirm the hypothesis derived from Keniston that caring is an important psychological issue for a medical student. The problem of generalizability, of course, is an issue here. Obviously, I cannot generalize this finding to any group. What I have tried to suggest, by doing an intensive analysis, is that we have to think very carefully

concerning what it is about the issue of caring in a medical student that we would want to generalize. To study the psychological importance of caring, we should not be studying the quantity of a trait. We need to study its place within a personality structure. In this study, I have demonstrated how one might operationalize caring as an important psychological issue relative to other important psychological issues. Furthermore, I have been able to confirm predictions I derived from Parsons about the psychological implications for a male medical student to whom the forming of nurturant relationships is important. We know better what it means for caring to be an important psychological issue for a first year medical student.

Finally, the data suggest ways to further refine Keniston's observation that medical students often fear losing their humanity. My data suggest that they specifically fear losing the inferior-expressive orientation. This fear or this loss may have very serious consequences for men and, perhaps especially, women, who have to contend with their own and society's expectations for gender appropriate behavior as they emerge from their training to practice the difficult art of medicine.

For future study, we would want to study other male and female medical students, as well as to monitor change in the dynamics of caring as a student progresses through his medical training.

That the factor analysis uncovered what I called nurturant types suggests another study. We could construct an appropriate Q sample and ask students: What is the proper attitude a physician should have toward his patients? Not only could we discover types of ideas about the physician's role, but, again, we could see if different types emerged in the contrast between the beginning and end of medical school.

Eventually, of course, we want to study the relation between mental representation and a student's actual behavior.

Methodology

Besides the prima facie evidence that the Q sample adequately represents Parsons' concepts, finding the predicted difference between adolescent and current perceptions of parents further validates the sample as a useful operationalization of the theory.

Whether the Q sample meets the dual criteria of homogeneity of type and heterogeneity of item is another question. The Q sorts do satisfy a test of the assumption of the homogeneity of variance (Hartley's F_{\max}). The stilted quality of the statements represents an attempt to eliminate variability in style, syntax and diction as possible confounding effects.

There are a couple of obvious problem statements. "I model myself after the great thinkers and doers," should

certainly have been classified as intense. "I do the teaching," has a different tone, is more of a declamation than an observation about oneself.

A more serious question is whether the Q sample is a sufficient set of statements to describe someone adequately. I am able to conclude that my theoretical concepts are useful in analyzing how a person represents others when he uses this set of statements. But if, in a natural setting, the subject were asked to describe someone and used entirely different kinds of statements, then I would not be able to generalize my findings. The results would be specific to the experimental situation.

Another way to look at this problem is to ask the question: is the Q sample representative of how the subject thinks about his world, or does it force him to use alien language embodying irrelevant categories? A solution would be to gather verbal descriptions freely given in response to the conditions of instruction and then construct a Q sample from that larger population of statements. Of course, then to adequately represent the theoretical concepts might emerge as a problem.

There is probably always a trade-off between theoretical clarity and the representativeness of the sample. Edelson and Jones sampled their subject's own statements, but their results indicated that they had not been able to make sharp enough distinctions along two of their three theoretically derived dimensions (1954).

Finally, I want to observe that the intensity effect was too strong. As I conceived it, it would only have meaning in an interaction, and only in the professor Q sort did we see that result.

TABLES

TABLE 1.--Need-disposition Cell Sums for All Q Sorts

Cells ^a	Q Sorts								
	Ideal Self	Ideal Phys	Self	Prof	MoNow	HSMo	FaNow	HSFa	Fut Self
	ABC Summaries								
a ₁ b ₁ c ₁	51	55	56	56	52	51	61	66	56
a ₁ b ₁ c ₂	32	40	39	69	44	40	35	49	42
a ₁ b ₂ c ₁	68	72	59	35	59	63	64	59	67
a ₁ b ₂ c ₂	55	53	46	34	55	49	47	44	50
a ₂ b ₁ c ₁	50	50	46	59	47	51	52	48	56
a ₂ b ₁ c ₂	35	37	33	68	52	54	35	38	43
a ₂ b ₂ c ₁	58	44	59	36	40	42	55	49	43
a ₂ b ₂ c ₂	35	33	46	27	35	34	35	31	27
Total	384	384	384	384	384	384	384	384	384
Mean	48	48	48	48	48	48	48	48	48

AB Summaries									
a ₁ b ₁	83	95	95	125	96	91	96	115	98
a ₁ b ₂	123	125	105	69	114	112	111	103	117
a ₂ b ₁	85	87	79	127	99	105	87	86	99
a ₂ b ₂	93	77	105	63	75	76	90	80	70
Total	384	384	384	384	384	384	384	384	384
Mean	96	96	96	96	96	96	96	96	96

^aa₁. Superior a₂. Inferior b₁. Instrumental b₂. Expressive

c₁. Mild c₂. Intense

TABLE 2.--Need-disposition Cell Sums for All Factors

Cells ^a	Factors		
	Factor F	Factor G	Factor H
	ABC Summaries		
$a_1b_1c_1$	51.33	60	49.25
$a_1b_1c_2$	40.5	37	32
$a_1b_2c_1$	67	70	71.5
$a_1b_2c_2$	48.66	48.66	56.58
$a_2b_1c_1$	50.33	50.33	45.25
$a_2b_1c_2$	50.33	36	32.33
$a_2b_2c_1$	43.33	51	55.75
$a_2b_2c_2$	32.5	31	41.33
Total	383.99	383.99	383.99
Mean	48	48	48
AB Summaries			
a_1b_1	91.83	97	81.25
a_1b_2	115.66	118.66	128.08
a_2b_1	100.66	86.33	77.58
a_2b_2	75.83	82	97.08
Total	383.99	383.99	383.99
Mean	96	96	96

^a a_1 . Superior a_2 . Inferior b_1 . Instrumental b_2 . Expressive
 c_1 . Mild c_2 . Intense

TABLE 3.--The Analysis of Variance of the Ideal Self Q Sort

Source	SS	df	MS	F	Direction
A. Generation	12.25	1	12.25	n.s.	
B. Sex	36.00	1	36.00	9.28**	$b_2 > b_1$
C. Intensity	76.56	1	76.56	19.73***	$c_1 > c_2$
AB	16.00	1	16.00	4.12*	
AC	0.57	1	0.57	n.s.	
BC	0.07	1	0.07	n.s.	
ABC	2.05	1	2.05	n.s.	
Within Cell	217.50	56	3.88		
Total	362	63			

Simple Main Effects

A at b_1	0.25	1	0.25	n.s.	
A at b_2	56.25	1	56.25	14.50***	$a_1 > a_2$
B at a_1	100.00	1	100.00	25.77***	$b_2 > b_1$
B at a_2	4.00	1	4.00	n.s.	

*p < .05

**p < .01

***p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 4.--The Analysis of Variance of the Ideal Physician
Q Sort

Source	SS	df	MS	F	Direction
A. Generation	49.00	1	49.00	12.25**	$a_1 > a_2$
B. Sex	6.25	1	6.25	n.s.	
C. Intensity	52.56	1	52.56	12.98**	$c_1 > c_2$
AB	25.00	1	25.00	6.25*	
AC	1.57	1	1.57	n.s.	
BC	0.07	1	0.07	n.s.	
ABC	0.56	1	0.56	n.s.	
Within Cell	227.00	56	4.05		
Total	362	63			

Simple Main Effects

A at b_1	4.00	1	4.00	n.s.	
A at b_2	144.00	1	144.00	35.56**	$a_1 > a_2$
B at a_1	56.25	1	56.25	14.06**	$b_2 > b_1$
B at a_2	6.25	1	6.25	n.s.	

* $p < .05$

** $p < .001$

Factorial Design

A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 5.--The Analysis of Variance of the Self Q Sort

Source	SS	df	MS	F	Direction
A.. Generation	4.00	1	4.00	n.s.	
B. Sex	20.25	1	20.25	n.s.	
C. Intensity	49.00	1	49.00	9.66*	$c_1 > c_2$
AB	4.00	1	4.00	n.s.	
AC	0	1	0	n.s.	
BC	1.00	1	1.00	n.s.	
ABC	0	1	0	n.s.	
Within Cell	284.00	56	5.07		
Total	362	63			

*p < .05

Factorial Design

Main Effects	Levels	
A. Generation	a ₁ . Superior	a ₂ . Inferior
B. Sex	b ₁ . Instrumental	b ₂ . Expressive
C. Intensity	c ₁ . Mild	c ₂ . Intense

TABLE 6.--The Analysis of Variance of the Professor Q Sort

Source	SS	df	MS	F	Direction
A. Generation	0.25	1	0.25	n.s.	
B. Sex	225.00	1	225.00	109.76**	$b_1 > b_2$
C. Intensity	2.25	1	2.25	n.s.	
AB	1.00	1	1.00	n.s.	
AC	2.25	1	2.25	n.s.	
BC	16.00	1	16.00	7.80*	
ABC	0.25	1	0.25	n.s.	
Within Cell	115.00	56	2.05		
Total	362	63			

Simple Main Effects

B at c_1	121.00	1	121.00	59.02**	$b_1 > b_2$
B at c_2	361.00	1	361.00	176.10**	$b_1 > b_2$
C at b_1	30.25	1	30.25	14.76**	$c_2 > c_1$
C at b_2	6.25	1	6.25	n.s.	

* $p < .01$ ** $p < .001$

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 7.--The Analysis of Variance of the Mother Now Q Sort

Source	SS	df	MS	F	Direction
A. Generation	20.25	1	20.25	n.s.	
B. Sex	0.56	1	0.56	n.s.	
C. Intensity	2.25	1	2.25	n.s.	
AB	27.57	1	27.57	5.05*	
AC	1.88	1	1.88	n.s.	
BC	0.57	1	0.57	n.s.	
ABC	3.06	1	3.06	n.s.	
Within Cell	305.5	56	5.46		
Total	362	63			

Simple Main Effects

A at b_1	0.56	1	0.56	n.s.	
A at b_2	95.06	1	95.06	17.41**	$a_1 > a_2$
B at a_1	20.25	1	20.25	n.s.	
B at a_2	36.00	1	36.00	n.s.	

* $p < .05$ ** $p < .001$

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 8.--The Analysis of Variance of the High School Mother
Q Sort

Source	SS	df	MS	F	Direction
A. Generation	7.6	1	7.6	n.s.	
B. Sex	1.0	1	1.0	n.s.	
C. Intensity	14.1	1	14.1	n.s.	
AB	39.1	1	39.1	7.5*	
AC	6.3	1	6.3	n.s.	
BC	3.1	1	3.1	n.s.	
ABC	1.0	1	1.0	n.s.	
Within Cell	290.0	56	5.2		
Total	362	63			

Simple Main Effects

A at b_1	12.25	1	12.25	n.s.	
A at b_2	81.00	1	81.00	15.58**	$a_1 > a_2$
B at a_1	27.56	1	27.56	5.28 ($p > .01$)	
B at a_2	52.56	1	52.56	10.11*	$b_1 > b_2$

* $p < .01$

** $p < .001$

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 9.--The Analysis of Variance of the Father Now Q Sort

Source	SS	df	MS	F.	Direction
A. Generation	14.06	1	14.06	n.s.	
B. Sex	5.06	1	5.06	n.s.	
C. Intensity	100.00	1	100.00	23.58*	$c_1 \geq c_2$
AB	2.26	1	2.26	n.s.	
AC	0.06	1	0.06	n.s.	
BC	0.57	1	0.57	n.s.	
ABC	2.25	1	2.25	n.s.	
Within Cell	237.25	56	4.24		
Total	362	63			

*p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a ₁ . Superior	a ₂ . Inferior
B. Sex	b ₁ . Instrumental	b ₂ . Expressive
C. Intensity	c ₁ . Mild	c ₂ . Intense

TABLE 10.--The Analysis of Variance of the High School
Father Q Sort

Source	SS	df	MS	F	Direction
A. Generation	42.25	1	42.25	9.27*	$a_1 > a_2$
B. Sex	5.06	1	5.06	n.s.	
C. Intensity	56.25	1	56.25	12.34**	$c_1 > c_2$
AB	0.57	1	0.57	n.s.	
AC	0.25	1	0.25	n.s.	
BC	0.57	1	0.57	n.s.	
ABC	1.56	1	1.56	n.s.	
Within Cell	255.50	56	4.56		
Total	362	63			

*p < .01

**p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 11.--The Analysis of Variance of the Future Self Q Sort

Source	SS	df	MS	F	Direction
A. Generation	33.06	1	33.06	7.89*	$a_1 > a_2$
B. Sex	1.56	1	1.56	n.s.	
C. Intensity	56.25	1	56.25	13.42**	$c_1 > c_2$
AB	36.01	1	36.01	8.59*	
AC	0.07	1	0.07	n.s.	
BC	0.57	1	0.57	n.s.	
ABC	0.01	1	0.01	n.s.	
Within Cell	234.50	56	4.19		

Total	362	63
-------	-----	----

Simple Main Effects

A at b_1	0.06	1	0.06	n.s.	
A at b_2	138.06	1	138.06	32.95**	$a_1 > a_2$
B at a_1	22.56	1	22.56	n.s.	
B at a_2	52.56	1	52.56	12.54**	$b_1 > b_2$

*p < .01

**p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 12.--The Analysis of Variance of Factor F

Source.	SS	df	MS	F	Direction
A. Generation	15.02	1	15.02	n.s.	
B. Sex	0.02	1	0.02	n.s.	
C. Intensity	25.00	1	25.00	5.14*	$c_1 > c_2$
AB	36.99	1	36.99	7.61**	
AC	5.25	1	5.25	n.s.	
BC	5.25	1	5.25	n.s.	
ABC	0.18	1	1.18	n.s.	
Within Cell	272.36	56	4.86		
Total	362	63			

Simple Main Effects

A at b_1	4.87	1	4.87	n.s.	
A at b_2	99.15	1	99.15	20.40***	$a_1 > a_2$
B at a_1	35.49	1	35.49	7.30**	$b_2 > b_1$
B at a_2	38.53	1	38.53	7.93**	$b_1 > b_2$

*p < .05

**p < .01

***p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 13.--The Analysis of Variance of Factor G

Source	SS	df	MS	F	Direction
A. Generation	34.88	1	34.88	9.18*	$a_1 > a_2$
B. Sex	4.57	1	4.57	n.s.	
C. Intensity	96.58	1	96.58	25.42**	$c_1 > c_2$
AB	10.68	1	10.68	n.s.	
AC	1.69	1	1.69	n.s.	
BC	0.38	1	0.38	n.s.	
ABC	0.71	1	0.71	n.s.	
Within Cell	212.51	56	3.80		
Total	362	63			

*p < .01

**p < .001

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 14.--The Analysis of Variance of Factor H

Source	SS	df	MS	F	Direction
A. Generation	18.67	1	18.67	5.05*	$a_1 > a_2$
B. Sex	68.62	1	68.62	18.55**	$b_2 > b_1$
C. Intensity	55.22	1	55.22	14.92**	$c_1 > c_2$
AB	11.79	1	11.79	n.s.	
AC	0.47	1	0.47	n.s.	
BC	0.13	1	0.13	n.s.	
ABC	0.12	1	0.12	n.s.	
Within Cell	206.98	56	3.70		
Total	362	63			

* $p < .05$ ** $p < .001$

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 15.--Comparison of all Q Sorts Showing Significant Effects*

Source	Q Sorts								
	Ideal Self	Ideal Phys	Self	Prof	MoNow	HSMo	FaNow	HSFa	Fut Self
A		$a_1 > a_2$						$a_1 > a_2$	$a_1 > a_2$
B	$b_2 > b_1$			$b_1 > b_2$					
C	$c_1 > c_2$	$c_1 > c_2$	$c_1 > c_2$				$c_1 > c_2$	$c_1 > c_2$	$c_1 > c_2$
AB	n	n			n	n			n
BC				n					

nSimple Main Effects**

A at b_1									
A at b_2	$a_1 > a_2$	$a_1 > a_2$			$a_1 > a_2$	$a_1 > a_2$			$a_1 > a_2$
B at a_1	$b_2 > b_1$	$b_2 > b_1$							
B at a_2						$b_1 > b_2$			$b_1 > b_2$
B at c_1				$b_1 > b_2$					
B at c_2				$b_1 > b_2$					
C at b_1				$c_2 > c_1$					
C at b_2									

*p < .05

**p < .01

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 16.--Comparison of Factors Showing Significant Effects*

Source	Factors		
	F	G	H
A		$a_1 > a_2$	$a_1 > a_2$
B			$b_2 > b_1$
C	$c_1 > c_2$	$c_1 > c_2$	$c_1 > c_2$
AB	n		

ⁿSimple Main Effects**

A at b_1	
A at b_2	$a_1 > a_2$
B at a_1	$b_2 > b_1$
B at a_2	$b_1 > b_2$

* $p < .05$

** $p < .01$

Factorial Design

Main Effects	Levels	
A. Generation	a_1 . Superior	a_2 . Inferior
B. Sex	b_1 . Instrumental	b_2 . Expressive
C. Intensity	c_1 . Mild	c_2 . Intense

TABLE 17.--Q Sort Correlation Matrix

Q Sort	Self	Ideal Phys	Ideal Self	HSMo	Prof	FaNow	Fut Self	MoNow	HSFa
S									
IP	.33								
IS	.53	.81							
HSM	.38	.51	.45						
Pr	.07	-.08	-.28	.16					
FaN	.41	.63	.58	.51	-.09				
FS	.47	.83	.81	.56	.14	.62			
MoN	.32	.44	.37	.79	.18	.51	.54		
HSF	.42	.57	.47	.45	.11	.77	.64	.52	

Note. Reliability = .90.

TABLE 18.--Factor Loadings*

Q Sorts	Factors		
	F	G	H
Self	.39	.37	.08
Id Phys	.54	.48	.45
Id Self	.37	.53	.70
HS Mo	.94	0	.07
Prof	.01	.17	-.47
Fa Now	.50	.54	.25
Fut Self	.64	.65	.18
Mo Now	.88	.05	-.06
HS Fa	.55	.52	.12

* > .32 is significant at .01

TABLE 19.--Factor Weightings

Q Sorts	Factors		
	F	G	H
Self	1	4	
Id Phys	1	5	4
Id Self	1	7	10
HS Mo	10		
Prof			-4
Fa Now	1	7	
Fut Self	1	10	
Mo Now	5		
HS Fa	1	6	

TABLE 20.---Factor F (Mother Type)

Most Characteristic

- +5 41. I pursue my goals with great determination.
(inferior, instrumental, intense)
- +5 20. I sometimes touch people to show warmth and caring.
(superior, expressive, mild)
- +4 24. I reassure people who are frightened.
(superior, expressive, mild)
- +4 59. I go out of my way to be nice to people.
(inferior, expressive, intense)
- +3.3 33. I work hard to be successful.
(inferior, instrumental, mild)
- +3.3 46. When I devote myself to the task at hand, I can
be tough-minded.
(inferior, instrumental, intense)
- +3.3 51. I spend a lot of time with the people I like.
(inferior, expressive, mild)
- +3 1. I often show others how to solve a problem.
(superior, instrumental, mild)
- +3 18. If someone is suffering, I will take care of him
and try to make him feel better.
(superior, expressive, mild)
- +3 19. I am supportive and encouraging of those who are
uncertain of themselves.
(superior, expressive, mild)

TABLE 20.--Continued

Most Uncharacteristic:

- 5 57. I fit in extremely well with most groups.
(inferior, expressive, intense)
- 5 58. I make every effort to avoid conflict.
(inferior, expressive, intense)
- 4 35. I model myself after the great thinkers and doers.
(inferior, instrumental, intense)
- 4 48. I always look for ways to accomplish something
important.
(inferior, instrumental, intense)
- 4 11. I do the teaching.
(superior, instrumental, intense)
- 3 60. I have a good word for almost everyone.
(inferior, expressive, intense)
- 3 56. I make friends easily.
(inferior, expressive, mild)
- 3 52. I'm a little shy until I know I belong.
(inferior, expressive, mild)
- 3 28. When I care about someone I'm a pushover.
(superior, expressive, intense)
- 3 12. I can be a real disciplinarian.
(superior, instrumental, intense)

TABLE 21.--Factor G (Nonmother Type)

Most Characteristic

- +5 21. I listen to people's intimate concerns.
(superior, expressive, mild)
- +5 38. I can put aside feelings in the effort to solve an important problem.
(inferior, instrumental, mild)
- +4 18. If someone is suffering, I will take care of him and try to make him feel better.
(superior, expressive, mild)
- +4 20. I sometimes touch people to show warmth and caring.
(superior, expressive, mild)
- +4 55. I share my experiences with people I'm close to.
(inferior, expressive, mild)
- +3 6. I can be honest when I think people need criticism or correction.
(superior, instrumental, mild)
- +3 19. I am supportive and encouraging of those who are uncertain of themselves.
(superior, expressive, mild)
- +3 23. I give freely to those in need.
(superior, expressive, mild)
- +3 24. I reassure people who are frightened.
(superior, expressive, mild)
- +3 50. I'm friendly, pleasant and agreeable.
(inferior, expressive, mild)

TABLE 21.--Continued

Most Uncharacteristic

- 5 11. I do the teaching.
(superior, instrumental, intense)
- 5 35. I model myself after the great thinkers and doers.
(inferior, instrumental, mild)
- 4 28. When I care about someone I'm a pushover.
(superior, expressive, intense)
- 4 58. I make every effort to avoid conflict.
(inferior, expressive, intense)
- 4 63. I become very attached to people.
(inferior, expressive, intense)
- 3 43. I work hard so that people will be proud of
what I do.
(inferior, instrumental, intense)
- 3 47. I am always trying to master something.
(inferior, instrumental, intense)
- 3 48. I always look for ways to accomplish something
important.
(inferior, instrumental, intense)
- 3 57. I fit in extremely well with most groups.
(inferior, expressive, intense)
- 3 62. I function well if people treat me nicely.
(inferior, expressive, intense)

TABLE 22.--Factor H (Ideal Type)

Most Characteristic

- +5 18. If someone is suffering, I will take care of him and try to make him feel better.
(superior, expressive, mild)
- +5 21. I listen to people's intimate concerns.
(superior, expressive, mild)
- +4 19. I am supportive and encouraging of those who are uncertain of themselves.
(superior, expressive, mild)
- +4 49. I let people know I accept them for who they are.
(inferior, expressive, mild)
- +3.5 23. I give freely to those in need.
(superior, expressive, mild)
- +3.5 55. I share my experiences with people I'm close to.
(inferior, expressive, mild)
- +3 24. I reassure people who are frightened.
(superior, expressive, mild)
- +3 30. I often will hold someone who needs to be comforted.
(superior, expressive, intense)
- +3 31. I find that people come to me for comfort and sympathy.
(superior, expressive, intense)
- +3 38. I can put aside feelings in the effort to solve an important problem.
(inferior, instrumental, mild)

TABLE 22.--Continued

Most Uncharacteristic

- 5 11. I do the teaching.
(superior, instrumental, intense)
- 5 35. I model myself after the great thinkers and doers.
(inferior, instrumental, mild)
- 4 36. I can be competitive.
(inferior, instrumental, mild)
- 3.67 28. When I care about someone I'm a pushover.
(superior, expressive, intense)
- 3.67. 43. I work hard so that people will be proud of
what I do.
(inferior, instrumental, intense)
- 3.67 62. I function well if people treat me nicely.
(inferior, expressive, intense)
- 3 10. I am the organizer; I make the plans.
(superior, instrumental, intense)
- 3 12. I can be a real disciplinarian.
(superior, instrumental, intense)
- 3 46. When I devote myself to the task at hand,
I can be tough-minded.
(inferior, instrumental, intense)
- 3 47. I am always trying to master something.
(inferior, instrumental, intense)

TABLE 23.--Statements Distinguishing Factor F from Factor G^a

More Characteristic of F than of G

<u>F</u>	<u>G</u>	
+5	0	41. I pursue my goals with great determination. (inferior, instrumental, intense)
+4	0	59. I go out of my way to be nice. (inferior, expressive, intense)
+3.3	0	46. When I devote myself to the task at hand, I can be tough-minded. (inferior, instrumental, intense)
+2	-1	9. I can be powerful in getting people to accept my view of how things should be done. (superior, instrumental, intense)
+3.3	+1	51. I spend a lot of time with the people I like. (inferior, expressive, mild)
+3.3	+1.3	33. I work hard to be successful. (inferior, instrumental, mild)
+2	0	39. I try to do more than what is expected. (inferior, instrumental, mild)
+1	-1	44. I sacrifice a lot to achieve what I want. (inferior, instrumental, intense)
+1	-1	45. I strive to be the best. (inferior, instrumental, intense)
-1	-3	62. I function well if people treat me nicely. (inferior, expressive, intense)
-2	-4	63. I become very attached to people. (inferior, expressive, intense)

TABLE 23.--Continued

More Characteristic of G than of F

<u>G</u>	<u>F</u>	
+5	-1	38. I can put aside feelings in the effort to solve an important problem. (inferior, instrumental, mild)
+5	+2	21. I listen to people's intimate concerns. (superior, expressive, mild)
+4	+1	55. I share my experiences with people I'm close to. (inferior, expressive, mild)
+3	0	50. I'm friendly, pleasant and agreeable. (inferior, expressive, mild)
+2	-1	2. I often take the lead, take responsibility. (superior, instrumental, mild)
+2	-1	5. I am firm when I need to be. (superior, instrumental, mild)
+3	+1	6. I can be honest when I think people need criticism or correction. (superior, instrumental, mild)
0	-2	49. I let people know I accept them for who they are. (inferior, expressive, mild)
-3	-5	57. I fit in extremely well with most groups. (inferior, expressive, intense)

TABLE 24.--Raw Q Sort Data

State- ments	Self	Ideal Phys	Ideal Self	HSMo	Prof	FaNow	Fut Self	MoNow	HsFa
1	10	9	6	9	9	7	7	7	8
2	6	5	7	6	6	9	8	4	8
3	5	5	5	5	6	7	4	6	8
4	5	8	6	7	7	10	7	8	9
5	5	7	6	5	8	8	8	6	9
6	9	8	8	7	7	7	9	6	10
7	7	7	6	5	7	6	6	6	6
8	9	6	7	7	6	7	7	9	8
9	4	6	4	8	10	5	6	10	7
10	6	4	3	5	9	3	5	4	5
11	3	2	1	2	7	1	3	2	2
12	2	4	3	2	9	3	4	3	6
13	2	7	5	5	8	7	5	4	8
14	6	5	5	6	9	6	6	8	6
15	9	4	4	6	10	6	6	8	8
16	7	8	7	6	7	4	7	5	7
17	7	7	7	6	1	6	6	5	9
18	7	10	10	7	4	9	10	9	9
19	9	9	10	8	5	9	8	8	7
20	8	10	8	10	7	10	9	11	9
21	10	11	11	8	6	8	11	6	6
22	5	6	5	7	5	5	4	5	6
23	5	10	9	9	4	8	10	6	6
24	8	9	8	8	3	9	9	9	7
25	8	6	8	7	5	9	7	8	7
26	9	8	7	7	3	7	7	8	7
27	3	8	7	7	3	6	7	8	5
28	5	1	2	4	4	5	1	5	2
29	5	8	6	6	6	8	7	7	7
30	7	9	9	8	4	5	7	5	5
31	5	6	9	6	4	5	9	9	8
32	4	7	7	4	5	2	5	5	3
33	6	6	6	8	8	10	6	10	10
34	4	9	8	9	8	7	8	7	6
35	1	3	1	3	8	1	3	2	1
36	10	3	4	5	9	3	5	4	3
37	6	7	9	6	7	5	9	7	5
38	8	11	9	3	7	11	11	3	11
39	4	5	6	10	6	8	6	7	5
40	7	6	7	7	6	7	8	7	7

TABLE 24.--Continued

State- ments	Self	Ideal Phys	Ideal Self	HSMo	Prof	FaNow	Fut Self	MoNow	HSFa
41	3	8	7	11	10	6	8	11	5
42	6	5	5	7	8	5	5	7	4
43	3	3	2	4	6	4	3	5	4
44	4	5	5	9	7	6	5	5	5
45	6	6	5	8	11	4	7	7	5
46	8	4	4	9	11	5	8	9	10
47	1	4	3	4	8	3	4	6	2
48	2	2	4	2	7	2	3	2	3
49	7	7	10	4	2	4	5	3	4
50	5	7	6	5	4	11	6	6	11
51	11	4	8	10	5	8	6	6	7
52	6	3	4	3	6	7	3	4	6
53	6	6	8	6	5	6	5	7	6
54	7	5	5	5	5	6	4	4	5
55	11	7	11	6	6	7	10	7	6
56	6	5	6	3	3	6	4	3	4
57	3	4	4	1	3	3	2	1	3
58	4	3	3	1	5	4	2	1	1
59	8	7	5	11	2	8	5	10	7
60	4	5	5	4	5	5	4	3	4
61	7	5	6	3	4	4	6	5	4
62	5	2	2	5	5	4	2	6	3
63	7	1	3	5	2	2	1	5	4
64	8	6	7	4	1	5	5	4	5

TABLE 25.--Raw Factor Data

State- ments	Factors		
	F	G	H
1	9	8	6
2	5	8	6
3	5	5	5
4	7.33	8	6
5	5	8	6
6	7	9	7.25
7	5	6	6
8	8	8	7
9	8	5	4
10	4.5	4	3
11	2	1	1
12	3	4	3
13	5	5	5
14	6	5	5
15	6	6	4
16	6	7	7
17	6	7	8
18	9	10	11
19	9	9	10
20	11	10	8
21	8	11	11
22	6	5	5
23	8	9	9.5
24	10	9	9
25	7.33	8	7.25
26	7.33	7.33	8
27	7	6	8
28	3	2	2.33
29	6	7	6
30	7	7	9
31	7	7.33	9
32	4	4	7
33	9.33	7.33	5
34	8	7	7.25
35	2	1	1
36	5	4	2
37	6	7	8
38	5	11	9
39	8	6	6
40	7	7	7

TABLE 25.--Continued

State- ments	Factors		
	F	G	H
41	11	6	6
42	6	5	5
43	4	3	2.33
44	7	5	5
45	7	5	4
46	9.33	6	3
47	4	3	3
48	2	3	4
49	4	6	10
50	6	9	7
51	9.33	7	7
52	3	4	4
53	6	6	7.25
54	5	5	5
55	7	10	9.5
56	3	4	6
57	1	3	5
58	1	2	4
59	10	6	7
60	3	4	5
61	4	5	6
62	5	3	2.33
63	4	2	4
64	4.5	6	8

TABLE 26.--Q Sample Statements

Superior, instrumental, mild ($a_1b_1c_1$)

1. I often show others how to solve a problem.
2. I often take the lead, take responsibility.
3. I am regarded by others as a leader.
4. I set an example in the way I act.
5. I am firm when I need to be.
6. I can be honest when I think people need criticism or correction.
7. When I make suggestions, others often follow them.
8. I show respect for people who are self-reliant.

Superior, instrumental, intense ($a_1b_1c_2$)

9. I can be powerful in getting people to accept my view of how things should be done.
10. I am the organizer; I make the plans.
11. I do the teaching.
12. I can be a real disciplinarian.
13. I step in when things aren't being done correctly.
14. I am frequently approached for advice, instruction or ideas.
15. I set high standards for people to live up to.
16. I encourage people to take as much responsibility for themselves as possible.

TABLE 26.--Continued

Superior, expressive, mild ($a_1b_2c_1$)

17. I am gentle with those who depend on me.
18. If someone is suffering, I will take care of him and try to make him feel better.
19. I am supportive and encouraging of those who are uncertain of themselves.
20. I sometimes touch people to show warmth and caring.
21. I listen to people's intimate concerns.
22. I try to give people what they want.
23. I give freely to those in need.
24. I reassure people who are frightened.

Superior, expressive, intense ($a_1b_2c_2$)

25. I protect those whom I care about.
26. I'll sit and listen for hours if someone needs a sympathetic ear.
27. I spend a lot of time trying to make people more comfortable.
28. When I care about someone I'm a pushover.
29. I often talk to people with a soothing voice and soothing words.
30. I often will hold someone who needs to be comforted.
31. I find that people come to me for comfort and sympathy.
32. I look for people who need attention and care.

TABLE 26.--Continued

Inferior, instrumental, mild ($a_2b_1c_1$)

- 33. I work hard to be successful.
- 34. I try harder after failing.
- 35. I model myself after the great thinkers and doers.
- 36. I can be competitive.
- 37. I spend time learning how to do things better.
- 38. I can put aside feelings in the effort to solve an important problem.
- 39. I try to do more than what is expected.
- 40. I try to make a contribution.

Inferior, instrumental, intense ($a_2b_1c_2$)

- 41. I pursue my goals with great determination.
- 42. I am frequently stirred to do more and to do better.
- 43. I work hard so that people will be proud of what I do.
- 44. I sacrifice a lot to achieve what I want.
- 45. I strive to be the best.
- 46. When I devote myself to the task at hand, I can be tough-minded.
- 47. I am always trying to master something.
- 48. I always look for ways to accomplish something important.

TABLE 26.--Continued

Inferior, expressive, mild ($a_2b_2c_1$)

- 49. I let people know I accept them for who they are.
- 50. I'm friendly, pleasant and agreeable.
- 51. I spend a lot of time with the people I like.
- 52. I'm a little shy until I know I belong.
- 53. I'm appreciative of people around me.
- 54. I try to smooth things over when there's an argument.
- 55. I share my experiences with people I'm close to.
- 56. I make friends easily.

Inferior, expressive, intense ($a_2b_2c_2$)

- 57. I fit in extremely well with most groups.
- 58. I make every effort to avoid conflict.
- 59. I go out of my way to be nice.
- 60. I have a good word for almost everyone.
- 61. I seek out people to be with and do things with.
- 62. I function well if people treat me nicely.
- 63. I become very attached to people.
- 64. I trust people and am open with my feelings.

REFERENCES

- Baas, L. R. and S. R. Brown. Generating Rules for Intensive Analysis: The Study of Transformations. Psychiatry, 1973, 36, 172-183.
- Becker, Howard S., B. Geer, E. C. Hughes, and A. L. Strauss. Boys in White: Student Culture in Medical School. Chicago: University of Chicago Press, 1961.
- Brown, S. R. Political Subjectivity. New Haven: Yale University Press, 1980.
- Edelson, M. and A. S. Jones. Operational Exploration of the Conceptual Self System and of the Interaction between Frames of Reference. Genetic Psychology Monographs, 1954, 50, 43-139.
- Fox, R. C. Training for Uncertainty. In R. K. Merton (ed.), The Student Physician, Cambridge, Mass.: Harvard University Press, 1957.
- Fox, R. C. Experiment Perilous. Glencoe, Ill.: Free Press, 1959.
- Keniston, K. The Medical Student. Yale Journal of Biology and Medicine, 1966, 39, 346-358.
- Kerlinger, F. N. Q Methodology in Behavioral Research. In S. R. Brown and D. J. Brenner (eds.). Science, Psychology and Communication. New York: Teachers College Press, 1972.
- Kerlinger, F. N. Foundations of Behavioral Research. New York: Holt, Rinehart and Winston, 1973. 2nd Edition.

- Levinson, D. J. Medical Education and the Theory of Adult Socialization. Journal of Health and Social Behavior, 1967, 8, no. 4, 253-264.
- Lief, H. I. and R. C. Fox. The Medical Student's Training for Detached Concern. In H. I. Lief et. al. (eds.), The Psychological Basis of Medical Practice. New Ork: Harper and Row, 1963.
- Merton, R. K. Some Preliminaries to a Sociology of Medical Education. In R. K. Merton (ed.). The Student Physician. Cambridge, Mass.: Harvard University Press, 1957.
- Parsons, Talcott. The Social System. New York: The Free Press, 1951.
- Parsons, Talcott. Certain Primary Sources and Patterns of Aggression in the Social Structure of the Western World. In T. Parsons, Essays in Sociological Theory. New York: The Free Press, 1954
- Parsons, T. Social Structure and Personality. New York: The Free Press, 1970. 2nd Edition.
- Parsons, T. Family Structure and the Socialization of the Child. In T. Parsons and R. F. Bales (eds.), Family, Socialization and Interaction Process. Glencoe, Ill: The Free Press, 1955.
- Rogers, C. R. and R. F. Dymond (eds.). Psychotherapy and Personality Change. Chicago: University of Chicago Press, 1954.
- Stephenson, W. The Study of Behavior: Q Technique and its Methodology. Chicago: University of Chicago Press, 1953.

YALE MEDICAL LIBRARY

Manuscript Theses

Unpublished theses submitted for the Master's and Doctor's degrees and deposited in the Yale Medical Library are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but passages must not be copied without permission of the authors, and without proper credit being given in subsequent written or published work.

This thesis by _____ has been used by the following persons, whose signatures attest their acceptance of the above restrictions.

Kamal Ratan 1/19/82

NAME AND ADDRESS	DATE
Alec Bodkin 333 Cedar St New Haven	2/15
Robert Kutzman "	2/13
	5/24
Alec Bodkin 333 Cedar	7/27
Robert Kutzman "	8/17/84
Julian Ginter 2 Canby St N.H. 06511	10/10/84
Alec Bodkin	11/21/84
Alec Bodkin	1/8/85
K. Ratan	3/24/85
Doc - University of Colorado	4/18/06

